

B. Sc. DEGREE EXAMINATION, APRIL 2023
BRANCH V (a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SECOND SEMESTER

COURSE : MAJOR – CORE
PAPER : BASICS OF APPLIED BIOTECHNOLOGY
TIME : 3 HOURS MAX. MARKS: 100

SECTION A

Answer all the questions. (18 MARKS)

I. Choose the correct answer: (5 x 1 = 5)

- _____ Substrate is used by microorganisms to produce SCP.
(a) Lipids (b) Agricultural wastes (c) Proteins (d) All of the above.
- _____ is known as White button Mushroom.
(a) *Pleurotus sp* (b) *Agaricus sp* (c) *Volvariella sp.* (d) None of the above
- The large holes in the cheese are due to _____
(a) Oxygen production (b) Carbon dioxide production
(c) Proteins (d) Fat.
- Baker's yeast is
(a) *Saccharomyces cerevisiae* (b) *Sachromyces octosporus*
(c) *Scizosacharomyces* (d) All of the above
- Name the fungi producing citric acid
(a) *Aspergillus sp* (b) Yeast (c) *Volvariella sp.* (d) All of the above.

II. Fill in the blanks: (5 x 1 = 5)

- Blue green algae can be used as biofertilizer as they are _____.
- Mushroom belong to the kingdom _____
- Roquefort cheese is ripened by _____
- The genetically modified Bt brinjal in India is developed for _____.
- Citric acid occurs in _____ fruits.

III. State Whether True or False: (3 x 1 = 3)

- Oyster mushroom is botanically known as *Agaricus sp.*
- Yeast is employed for the commercial production of cheese.
- Bubble column reactor provides better mixing than Airlift reactors.

IV. Match the following : (5 x 1 = 5)

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|-------------------------------|--------------------------------------|
| 14. Algal Biofertilizers | a) Bt brinjal |
| 15. Edible mushroom | b) <i>Streptococcus thermophilus</i> |
| 16. Cheese | c) BGA |
| 17. Genetically Modified Food | d) <i>Pleurotus sp.</i> |
| 18. Yoghurt | e) Cheddar |

V. Answer any **SIX** of the following. Each answer should not exceed 50 words:

(6 x 3 = 18)

19. List out the applications of biofertilizers.
20. Write about the nutrition values of Mushroom.
21. Name the microorganisms involved in the production of yoghurt.
22. How is Bt brinjal genetically modified?
23. What is airlift fermenter?
24. What is plant tissue culture?
25. Define Rennet.
26. Define fermentation.
27. What is the importance of Fermentor?

SECTION – B

Answer any **FOUR** of the following. Each answers not exceeding 200 words. (4 x 6 = 24)

28. Write briefly about the scope of Biotechnology.
29. Comment on the poisonous mushroom *Amantia species*.
30. Summarize the manufacture of Yoghurt making.
31. Describe the role of yeast in bread making.
32. Explain the method of *Pencillin* production.
33. Outline the Principles of Plant tissue culture.

SECTION – C

Answer any **TWO** of the following. Each answers not exceeding 1000 words.

(2 x 20 = 40)

34. What are the methods for mass cultivation of *Spirulina* SCP? Discuss the benefits of *Spirulina* SCP.
35. Write an essay on the methods of cultivation of oyster mushroom.
36. Explain in detail the manufacture of cheese and add notes on its types
37. Discuss in detail the types of Fermentors.
